#### PATENT APPLICATION

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#9

In re the Application of

Satoru MIYASHITA, Hiroshi KIGUCHI, Tatsuya SHIMODA and Sadao KANBE

Application No.: 09/901,097

Filed: July 10, 2001

Docket No.: 101050.02

For: METHOD OF MANUFACTURING ORGANIC EL ELEMENT, ORGANIC EL ELEMENT, AND ORGANIC EL DISPLAY DEVICE

# PETITION FOR CONSOLIDATION OF THREE INTERFERENCES

Director of the U.S. Patent and Trademark Office Washington, D. C. 20231

Sir:

This is a petition under 37 C.F.R. §1.182 requesting that three requested interference proceedings be consolidated. Specifically, this Petition requests the consolidation of the interferences resulting from three Requests for Declaration of Interference, concurrently filed in the above-identified Application and co-pending United States Patent Applications having Serial Numbers 09/901,095 and 09/901,126, seeking the declaration of interference between the above mentioned three applications and United States Patent No. 6,087,196 to Sturm et al. (hereinafter "Sturm").

The Applicants respectfully submit that considerations of efficiency, uniformity, expense, and speed in prosecuting the interferences between the above-identified Applications and Sturm can best be satisfied by consolidating the three Requests for Declaration of Interference and collectively and concurrently prosecuting a single interference between Sturm and the above-identified Applications. See the preamble of 37 C.F.R. §1.601 defining a primary

good of the rules as being to secure the just, speedy, and inexpensive determination of every interference.

In each of the above-referenced Applications, a Request for Declaration of Interference with Sturm is filed.

Additionally, the above-referenced Applications and Sturm are directed to similar subject matter. Broadly speaking, the three Applications and Sturm disclose using ink-jet printing to form semiconducting devices including organic semiconducting elements or including polymeric elements. Indeed, Applications with Serial Numbers 09/901,097 and 09/901,095 include claims exactly, and claims substantially, corresponding to each of interference counts 1 and 2 with corresponding claims of Sturm.

Moreover, the above-identified Applications are assigned to a common assignee.

Accordingly, disputed issues between the three Applications and Sturm address similar subject matter between the same two parties.

Therefore, to efficiently, uniformly, and speedily prosecute the Interference between the above-identified Applications and Sturm, the Applicants respectfully request:

- (1) That the three Requests for Declaration of Interference be consolidated, and
- (2) That the resulting interference proceedings between Sturm and the above-referenced three Applications be consolidated.

Attached is our check no. 128238, in the amount of \$130.00, as the petition fee set forth in 37 C.F.R. §1.17(h). If any additional fees are necessary, the U.S. Patent and Trademark

Office is authorized to debit Deposit Account No. 15-0461.

Respectfully submitted,

James A. Oliff Registration No. 27,075

Hrayr A. Sayadian Registration No. 46,491

JAO:HAS/tbh

Date: February 27, 2002

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#### PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Satoru MIYASHITA, Hiroshi KIGUCHI, Tatsuya SHIMODA and Sadao KANBE

Application No.: 09/901,097

Filed: July 10, 2001

Docket No.: 101050.02

For: METHOD OF MANUFACTURING ORGANIC EL ELEMENT, ORGANIC EL ELEMENT, AND ORGANIC EL DISPLAY DEVICE

#### REQUEST FOR DECLARATION OF INTERFERENCE

Director of the U.S. Patent and Trademark Office Washington, D. C. 20231

Sir:

The Applicants hereby respectfully request that an Interference be declared between the above-identified patent application and United States Patent No. 6,087,196 to Sturm et al. (hereinafter "Sturm"), attached to the Information Disclosure Statement filed July 10, 2001.

Specifically, the Applicants request that an Interference be declared between claims 25-46 and 54-77 of the present Application and claims 1-22 and 30-51 of Sturm.

Additionally, the Applicants propose that counts 1, 2, 4, and 5 set forth in Appendices A and B, be made the counts of the Interference. The counts are numbered 1, 2, 4, and 5 to avoid confusion with other counts (numbered differently) of Interferences in Applicants' other Applications, in which corresponding Requests for Declaration of Interference and a are being concurrently filed.<sup>1</sup>

Moreover, the Applicants respectfully request that:

<sup>&</sup>lt;sup>1</sup> United States Patent Applications with Serial Numbers 09/901,095 and 09/901,126 are the other Applications in which concurrent Requests for Declaration of Interference are being filed.

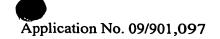
- 1. claims 25, 26, 29, and 35 of the present Application and claims 1, 2, 5, and 11 of Sturm be designated as corresponding to count 1;
- 2. claims 27, 30-34, 36-46, and 76 of the present Application and claims 3, 6-10, and 12-22 of Sturm be designated as corresponding to count 2;
- claims 28, 54-56, and 58 of the present Application and claims 4, 30-32, and
   of Sturm be designated as corresponding to count 4; and
- 4. claims 57, 59-75, and 77 of the present Application and claims 33 and 35-51 of Sturm be designated as corresponding to count 5.

The Applicants note that claims 25, 36, 54, and 65 of the present Application are copies of claims 1, 12, 30, and 41, respectively, of Sturm. The Applicants also note that claims 25, 36, 56, and 65 of the present Application (and claims 1, 12, 30, and 41 of Sturm) correspond exactly to counts 1, 2, 4, and 5, respectively.

The Applicants note that claims 14 and 43 of Sturm broadly recite the feature of metallizing said ink-jet printed substrates, which feature has a scope covered by claims 38 and 76, and 67 and 77, respectively, of the present Application.

Attached Appendix A shows the support for features of claims 25-46 and 54-77 in the present Application. Attached Appendix A also shows the support in their Japanese Priority Document, JP 8-313828, filed in Japan on November 25, 1996, for proposed interference counts 4 and 5, and the support in the Japanese Priority Document, at least, for claims 28, 54, 57, and 65 of this Application. Attached Appendix B lays out the rationale for correspondence between counts 1, 2, 4, and 5, claims 25-46 and 54-77 of the present Application, and claims 1-22 and 30-51 of Sturm.

Furthermore, the Applicants respectfully request that the Examiner acknowledge in the Declaration of Interference Applicants' right to the benefit of PCT/JP 97/04283, filed November 25, 1997. Additionally, the Applicants respectfully request that the Examiner



acknowledge in the Declaration of Interference Applicants' right to the benefit of their Japanese Priority Document, JP 8-313828, filed in Japan on November 25, 1996.

Applicants respectfully submit that all of the claims pending in this Application meet the requirements of 35 U.S.C. §135(b), and therefore satisfy 37 C.F.R. §1.607(a)(6), because the preliminary amendment filed on July 10, 2001 (less than one year after issue date of Strum) presented claims to the same subject matter as claims amended after July 11, 2001.

In accordance with 37 C.F.R. §1.607(b), the Applicants respectfully request that examination of the present Application be conducted with special dispatch within the Patent and Trademark Office. Attention is respectfully directed to the Petition For Consolidation of Three Interferences, a copy of which is attached.

Should there be any questions concerning this communication, please telephone the undersigned at the number set forth below.

Respectfully submitted,

James A. Oliff Registration No. 27,075

Hrayr A. Sayadian Registration No. 46,491

JAO:HAS/tbh

Attachments:

Appendix A Appendix B Petition

Date: February 27, 2002

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Count	Claims of 196 Patent	Claims in 09/901,097	Support in 09/901,097	Support in Priority Doc JP 8-313828
Count 1. A process for forming	1. A process for forming a	25 A process for forming a	P3, L9-19: Polymer organic	
a pattern on a substrate by	pattern on a substrate by	pattern on a substrate by	compound.	
deposition of an organic	deposition of an organic	deposition of an organic	P8, L16-22: ink-jet method, dissolving	
material comprising the steps	material comprising the steps	material comprising the steps	luminescent in solvent to obtain	
of:	of:	of:	discharge liquid.	
depositing a semiconducting	depositing a	depositing a	P11, L30-L31: luminescent layers are	
organic material in a solvent	semiconducting organic	semiconducting organic	organic compound.	
onto a substrate by ink-jet	material in a solvent onto a	material in a solvent onto a	P12, L25-P13, L3: Ex. of organic	
printing; and	substrate by ink-jet printing;	substrate by ink-jet printing;	compound.	
evaporating the solvent,	and	and	P13, L4-15: precursor prior to	
whereby said organic material	evaporating the solvent,	evaporating the solvent,	conjugation (to form a film) of PPV or	
remains on the substrate.	whereby said organic material	whereby said organic material	its derivative is soluble to water or	
	remains on the substrate.	remains on the substrate.	organic solvent.	
			P14, L17-25: Ex of dyes.	-
			P30, L27-32: heat treatment.	
	2. The process of claim 1,	26. The process of claim 25,	P9; P30, L27-32: heat treatment.	
	further comprising drying the	further comprising drying the		
,	deposited material to remove	deposited material to remove	·	
	said solvent.	said solvent.		

(	1 1 4 /01 3	C1=::-	Support in 00/001 007	Support in Priority Doc. IP 8-313828
Count	Claims of 196 Fatent	Claims in 02/301,03/	1	
Count 2. A process for making	3. The process of claim 1	27. The process of claim 25	P8;	
organic light emitting diodes	wherein said organic material	wherein said organic material	P12, L25- P13, L15.	
comprising the steps of:	is a luminescent polymer.	is a luminescent polymer.		
depositing a semiconducting	• • • • • • • • • • • • • • • • • • •			
organic material in a solvent				
onto a substrate by ink-jet				
printing; and				
evaporating the solvent, said				
organic material remaining on				
the substrate.	. •			
Count 4. A process for forming	4. The process of claim 1	28. The process of claim 25	P21 discloses using PVK.	P13, ¶22: organic materials;
a pattern on a substrate by	wherein said material includes	wherein said material includes		P16, ¶35: ink jetting, organic;
deposition of an organic	polyvinylcarbazol film.	polyvinylcarbazol film.		materials, heat treatment;
material comprising the steps				P19, 445-46: organic materials;
of:				P22, 460-61: organic materials.
depositing organic material				P 18, 441: PVK is ink-jet printed;
including polyvinylcarbazol				F23, 103: doping dye to FVA.
film in a solvent onto a				
substrate by ink-jet printing;				
and				
evaporating the solvent,				
whereby said organic material				
remains on the substrate.				
-	5. The process of claim 1	29. The process of claim 25	P13, L5-8 disclose using organic	
	wherein said solvent is	wherein said solvent is	solvent.	
	chloroform.	organic.		

Support in Priority Doc JP 8-313828					•					•		,												
Support in 09/901,097	P13, L16-P14, L23 discloses	luminescent dyes and one of ordinary	skill in the art would know that	luminescent dyes are light emitting.	P13, L16- P14, L23 disclose using at	least one coumarin based dye.			P15, L11.			P15 discloses using coumarin 1. The	disclosures are equivalent because	coumarin 1 is the same as coumarin	47.	P15 discloses using mixtures of the	dyes including coumarin 1 and	coumarin 6. The disclosures are	equivalent because coumarin 1 is the	same as coumarin 47.	P12, L21-P15, L23; P13, L18	discloses mixing polymer with organic	dyes.	
Claims in 09/901,097	30. The process of claim 25	wherein said material includes	light emitting dyes.		31. The process of claim 30	wherein said light emitting	dyes include coumarin.		32. The process of claim 31	wherein said coumarin is	coumarin 6.	33. The process of claim 31	wherein said coumarin is	coumarin 1.		34. The process of claim 31	wherein said coumarin is	coumarin 6 and coumarin 1.			35. The process of claim 25	wherein said organic material	is a mixture of polymers and	other organic molecules.
Claims of 196 Patent	6. The process of claim 1	wherein said material includes	light emitting dyes.		7. The process of claim 6	wherein said light emitting	dyes include coumarin and nile	red.	8. The process of claim 7	wherein said coumarin is	coumarin 6.	9. The process of claim 7	wherein said coumarin is	coumarin 47.	:	10. The process of claim 7	wherein said coumarin is	coumarin 6 and coumarin 47.			11. The process of claim 1	wherein said organic material	is a mixture of polymers and	other organic molecules.
Count	2				2				2			2				2				•.				•

Support in Priority Doc JP 8-313828																							-		
Support in 09/901,097	P1, L5-7. The disclosures are	equivalent because the disclosed	luminescent structures are provided as	a diode structure.		-							Fig. 1, P9, L4-10: blue luminescent	layer 108 is continuous sheet.	P9, L11-14: blue luminescent layer	108 can be formed by ink-jet method.		Fig. 1, P10, L28- P11, L5: a cathode	(counter electrode) 113 is formed as a	metallic thin film electrode on blue	luminescent layer 108.	Fig. 1, P10, L28- P11, L5: a cathode	(counter electrode) 113 is formed as a	metallic thin film electrode on blue	luminescent layer 108.
Claims in 09/901,097	36. A process for making an	organic light emitting diodes	comprising the steps of:	depositing a	semiconducting organic	material in a solvent onto a	substrate by ink-jet printing;	and	evaporating the solvent,	said organic material	remaining on the substrate.		37. The process of claim 36	wherein said depositing step	operates an ink-jet printer in a	mode to create a continuous	sheet of polymer.	38. The process of claim 37	further including the step of	metallizing said ink-jet printed	susbtrates.	76. The process of claim 3.7	further including the step of	metallizing said ink-jet printed	organic material.
Claims of 196 Patent	12. A process for making	organic light emitting diodes	comprising the steps of:	depositing a	semiconducting organic	material in a solvent onto a	substrate by ink-jet printing;	and	evaporating the solvent,	said organic material	remaining on the substrate.		13. The process of claim 12	wherein said depositing step	operates an ink-jet printer in a	mode to create a continuous	sheet of polymer.	14. The process of claim 13	further including the step of	metallizing said ink-jet printed	substrates.	14. The process of claim 13	further including the step of	metallizing said ink-jet printed	substrates.
Count	2											7	2					2				2			

Support in Priority Doc JP 8-313828																						,	-			
Support in 09/901,097	P10, L30-P11, L5 discloses forming	top metal cathode 113.		-	-	P29, L25-26 discloses using masking	deposition to form the cathode.			P7, L13-22 discloses placing	electrodes 101-103.		•		Inherent P10, L30- P11, L5: cathode	113.		Inherent P7, L13-22: pixel electrodes	101-103.			P13, L16- P14, L23 disclose	luminescent dyes. The disclosures are	equivalent because one of ordinary	skill in the art would know that	Iminescent dives emit light
Claims in 09/901,097	39. The process of claim 38	further including the step of	depositing a top metal contact	on said substrate.		40. The process of claim 39	wherein said top metal contact	is deposited through a mask.		41. The process of claim 36	further including the step of	depositing bottom contacts on	said substrate.		42. The process of claim 39	wherein said top metal contact	is deposited in a pattern.	43. The process of claim 41	wherein said bottom contacts	are deposited in a pattern.		44. The process of claim 36	further wherein said organic	material includes light emitting	dyes.	•
Claims of 196 Patent	15. The process of claim 14	further including the step of	depositing with ink-jet printing	top metal contacts on said	substrate.	16. The process of claim 15	wherein said top metal contacts	are deposited through a	shadow mask.	17. The process of claim 12	further including the step of	depositing with ink-jet printing	bottom metal contacts on said	substrate.	18. The process of claim 15	wherein said top metal contacts	are deposited in a pattern.	19. The process of claim 17	wherein said bottom metal	contacts are deposited in a	pattern.	20. The process of claim 12	further wherein said organic	material includes light emitting	dyes.	
Count	. 2					2				2					2		•	2								

Support in Priority Doc JP 8-313828											P13, ¶22: organic materials;	P16, [35: ink jetting, organic;	materials, heat treatment;	P19, ¶45-46: organic materials;	P22, ¶60-61: organic materials;	P 18, ¶41: PVK is ink-jet printed;	P23, ¶63; doping dye to PVK.	•									
Support in 09/901,097	Fig. 1, P10, L30- P11, L5 cathode 113	on blue luminescent layer 108.				P7, L13-22: pixel electrodes 101-103.					P12, L25- P13, L3: Ex. of organic	compounds;	P21 discloses PVK; and	P21, discloses Solvent			- -							P9;	P30 L27-32: heat treatment		
Claims in 09/901,097	45. The process of claim 44	further including the step of	depositing a top contact on	said organic material.		46. The process of claim 45	further including the step of	depositing bottom contacts on	said substrate.		54. A process for forming a	pattern on a substrate by	deposition of an organic	material comprising the steps	of:	depositing organic material	including polyvinylcarbazol	film in a solvent onto a	substrate by ink-jet printing;	and	evaporating the solvent,	whereby said organic material	remains on the substrate.	55. The process of claim 54,	further comprising drying the	deposited material to remove	said solvent.
Claims of 196 Patent	21. The process of claim 20	further including the step of	depositing top contacts on said	organic material by ink jet	printing.	22. The process of claim 21	further including the step of	depositing bottom contacts on	said substrate by ink-jet	printing.	30. A process for forming a	pattern on a substrate by	deposition of an organic	material comprising the steps	of:	depositing organic material	including polyvinylcarbazol	film in a solvent onto a	substrate by ink-jet printing;	and	evaporating the solvent,	whereby said organic material	remains on the substrate.	31. The process of claim 30,	further comprising drying the	deposited material to remove	said solvent.
Count	2					2					Count 4. A process for forming	a pattern on a substrate by	deposition of an organic	material comprising the steps	of:	depositing organic material	including polyvinylcarbazol	film in a solvent onto a	substrate by ink-jet printing;	and	evaporating the solvent,	whereby said organic material	remains on the substrate.	4			

Claims in 09/901,097 56. The process of claim 54 wherein said organic material is semiconducting
is semiconducting. 57. The process of claim 54 wherein said organic material is a luminescent polymer.
58. The process of claim 54 wherein said solvent is organic.
59. The process of claim 54 wherein said material includes light emitting dyes.
60. The process of claim 59 wherein said light emitting dyes include coumarin.
61. The process of claim 60 wherein said coumarin is coumarin 6.

Support in Priority Doc JP 8-313828														P13, ¶22: organic materials;	P16, ¶35: ink jetting, organic	materials, heat treatment;	P19, ¶45-46: organic materials;	P22, ¶60-61: organic materials;	P6, ¶1: EL devicesprovided in the	specification as a diode structure. The	disclosures are equivalent because one	of ordinary skill in the art would know	that El organic elements that use hole	injection and transfer layer are	
Support in 09/901,097	P15 discloses using coumarin 1. The	disclosures are equivalent because	coumarin 1 is the same as coumarin	47.	P15 discloses combining various	coumarins, including coumarin 1 and	6. The disclosures are equivalent	because coumarin 1 is the same as	coumarin 47.	P12, L21-P15, L23; P13, L18	discloses mixing polymer with organic	dyes.		P12, L25- P13, L3: Ex of organic	compounds	P21 discloses PVK and solvent;	P3 discloses making organic	electroluminescent elements. The	disclosures are equivalent because one	of ordinary skill in the art would know	that El organic elements that use hole	injection and transfer layer are	equivalent to light emitting diodes.		
Claims in 09/901,097	62. The process of claim 60	wherein said coumarin is	coumarin 1		63. The process of claim 60	wherein said coumarin is	coumarin 6 and coumarin 1.			64. The process of claim 54	wherein said organic material	is a mixture of polymers and	other organic molecules.	65. A process for making	organic light emitting diodes	comprising the steps of:	depositing organic material	including polyvinylcarbazol	film in a solvent onto a	substrate by ink-jet printing;	pue	evaporating the solvent,	said organic material	remaining on the substrate.	
Claims of 196 Patent	38. The process of claim 36	wherein said coumarin is	coumarin 47.		39. The process of claim 36	wherein said coumarin is	coumarin 6 and coumarin 47.			40. The process of claim 30	wherein said organic material	is a mixture of polymers and	other organic molecules.	41. A process for making	organic light emitting diodes	comprising the steps of:	depositing organic material	including polyvinylcarbazol	film in a solvent onto a	substrate by ink-jet printing;	and	evaporating the solvent,	said organic material	remaining on the substrate.	
Count	5				. 8					\$				5										-	-

	Claim, of 10¢ Datont	Cloims in 09/901 097	Support in 09/901.097	Support in Priority Doc JP 8-313828
Count	Claims of 170 ratent	Cialins in O//O1,0//	7 1 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	
\$	42. The process of claim 41	66. The process of claim 65	PP 11-13 discloses forming layers and	
	wherein said depositing step	wherein said depositing step	films (= continuous sheet); P13	
	operates an ink-jet printer in a	operates an ink-jet printer in a	discloses polymer.	
	mode to create a continuous	mode to create a continuous		
	sheet of polymer.	sheet of polymer.		
5	43. The process of claim 42	67. The process of claim 66	Fig. 1, P10, L28- P11, L5 discloses	
	further including the step of	further including the step of	that a cathode (counter electrode) 113	
	metallizing said ink-jet printed	metallizing said ink-jet printed	is formed into a metallic thin film	
	substrates.	substrates.	electrode on blue luminescent layer	
			108.	
5	43. The process of claim 42	77. The process of claim 66	Fig. 1, P10, L28- P11, L5 discloses	
	further including the step of	further including the step of	that a cathode (counter electrode) 113	
	metallizing said ink-jet printed	metallizing said ink-jet printed	is formed into a metallic thin film	•
	substrates.	organic material.	electrode on blue luminescent layer	
			108.	
5	44. The process of claim 43	68. The process of claim 67	P10, L30-P11, L5 discloses forming	
	further including the step of	further including the step of	top metal cathode 113.	
	depositing with ink-jet printing	depositing a top metal contact		
	top metal contacts on said	on said substrate.		
	substrate.			
2	45. The process of claim 44	69. The process of claim 68	P29, L25-26 discloses using masking	
	wherein said top metal contacts	wherein said top metal contact	deposition to form the cathode.	
	are deposited through a	is deposited through a mask.		
	shadow mask.			

Support in Priority Doc JP 8-313828					-																							
Support in 09/901,097	P7, L13-22 pixel electrodes 101-103.					Depositing in a pattern is inherent.	P10, L30- P11, L5: cathode 113.		Depositing in a pattern is inherent. P7,	L13-22: pixel electrodes 101-103.			PP 10-14 disclose various luminescent	dyes. The disclosures are equivalent	because one of ordinary skill in the art	would know that luminescent dyes	emit light.	P10 lines 28-32 discloses depositing	top contact.				P7, L13-22: pixel electrodes 101-103.					
Claims in 09/901,097	70. The process of claim 65	further including the step of	depositing bottom contacts on	said substrate.		71. The process of claim 68	wherein said top metal contact	is deposited in a pattern.	72. The process of claim 70	wherein said bottom contacts	are deposited in a pattern.		73. The process of claim 65	further wherein said organic	material includes light emitting	dyes.		74. The process of claim 73	further including the step of	depositing a top contact on	said organic material.		75. The process of claim 74	further including the step of	depositing bottom contacts on	said substrate.		
Claims of 196 Patent	46. The process of claim 41	further including the step of	depositing with ink-jet printing	bottom metal contacts on said	substrate.	47. The process of claim 44	wherein said top metal contacts	are deposited in a pattern.	48. The process of claim 46	wherein said bottom metal	contacts are deposited in a	pattern.	49. The process of claim 41	further wherein said organic	material includes light emitting	dyes.		50. The process of claim 49	further including the step of	depositing top contacts on said	organic material by ink jet	printing.	51. The process of claim 50	further including the step of	depositing bottom contacts on	said substrate by ink-jet	printing.	
Count	5					\$			5				5					5					5		:			

Claims of 196 Patent	Claims in 09/901,097	Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
5. The process of	29. The process of	1	Claim 29 of this Application does not explicitly	Count 1 does not recite using chloroform as the
claim 1 wherein said	claim 1 wherein said		disclose using chloroform as the organic solvent.	solvent. However, it is well recognized in the
solvent is chloroform.	solvent is organic.		However, it is recognized in the art that	chemical arts that dissolving organic material is
	<u>.                                      </u>		chloroform dissolves PVK. See, e.g., Zhang	best performed with organic solvents. Moreover, it
	-		(1994), p. 37, first paragraph of section titled	is recognized in the art that chloroform dissolves
	٠		"LED device fabrication." Additionally, it would	PVK. See, e.g., Zhang (1994), p. 37, first
			have been obvious to use chloroform as the	paragraph of section titled "LED device
•			organic solvent because chloroform has a low	fabrication." Additionally, it would have been
	•	. •	boiling point and, therefore, would not require a	obvious to use chloroform as the organic solvent
			lot of heating to evaporate. See, e.g., The Merck	because chloroform has a low boiling point and,
			Index, 12th edition, p. 2199 as opposed to various	therefore, would not require a lot of heating to
			alcohols as shown in Table 17.1 of Organic	evaporate. See, e.g., The Merck Index, 12th edition,
,		-	Chemistry by Morrison and Boyd, 5 <sup>th</sup> edition	p. 2199 as opposed to various alcohols as shown in
	-:		(1987), p. 637.	Table 17.1 of Organic Chemistry by Morrison and
				Boyd, 5th edition (1987), p. 637.
			Additionally, features of claim 29 of this	•
			Application are anticipated by features of claim 5	Application are anticipated by features of claim 5   Additionally, features of count 1 are anticipated by
			of the '196 patent.	features of claim 5 of the '196 patent and claim 29
-				of this Application.

Claims of 196 Patent	Claims of 196 Patent   Claims in 09/901,097	Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
7. The process of	31. The process of	2	Claim 31 of this Application does not explicitly	Count 2 does not recite using coumarin with nile
claim 6 wherein said	claim 30 wherein said		disclose using coumarin with nile red. However,	red. However, both coumarin and Nile red are dyes
light emitting dyes	light emitting dyes		both coumarin and Nile red are dyes used in	used in organic light emitting devices because of
include coumarin and	include coumarin.		organic light emitting devices because of their	their spectra. See, e.g., Mori '489, column 24, lines
nile red.	٠		spectra. See, e.g., Mori '489, column 24, lines 3-	3-6, and column 40, line 68. Additionally, it would
			6, and column 40, line 68. Additionally, it would	have been obvious to mix coumarin with nile red to
			have been obvious to mix coumarin with nile red	broaden the spectrum of the emitted light. See, e.g.,
			to broaden the spectrum of the emitted light. See,	Brinkley '692, column 11, lines 38-54, and Table 3
			e.g., Brinkley '692, column 11, lines 38-54, and	disclosing combining various organic materials
-			Table 3, disclosing combining various organic	(including inter alia coumarin and oxazinenile
-			materials (including inter alia coumarin and	reddyes) to broaden the spectrum of emitted light.
			oxazinenile reddyes) to broaden the spectrum	
			of emitted light.	Additionally, features of count 2 are anticipated by
•			•	features of claim 7 of the '196 patent and claim 31
			Additionally, features of claim 31 of this	of this Application.
	-		Application are anticipated by features of claim 7	
-	-		of the '196 patent.	

	Т													-	$\neg$
Rationale for Correspondence Between the		Count 2 does not recite using commanii 47.	However, coumarin 1 is recognized in the art as an	alternative name for coumarin 47. See, e.g.,	Kessler '932 disclosing in claim 21, see column 15	lines 22-23, that coumarin 460 is alternatively	that coumarin 460 is alternatively called coumarin   called coumarin 1 and coumarin 47. Additionally,	it would be obvious to use coumarin 1 (also	recognized as 47) to obtain blue light. See, e.g.,	Thompson '982, column 3 lines 7-19, column 5	lines 43-54, and references cited therein.	-	Additionally, features of count 2 are anticipated by	features of claim 9 of the '196 patent and claim 33	of this Application.
Rationale for Correspondence Between Claims	1	Claim 33 of this Application does not explicitly	disclose using coumarin 47. However, coumarin	1 is recognized in the art as an alternative name	for coumarin 47. See, e.g., Kessler '932	disclosing in claim 21, see column 15 lines 22-23, lines 22-23, that coumarin 460 is alternatively	that coumarin 460 is alternatively called coumarin	1 and coumarin 47.		Additionally, features of claim 33 of this	Application are anticipated by features of claim 9	of the '196 patent of this Application.			
Correspond	to count No.					•									
Claims of 196 Patent   Claims in 09/901,097		33. The process of	claim 31 wherein said	coumarin is coumarin		•									
Claims of 196 Patent		<ol><li>The process of</li></ol>	claim 7 wherein said	coumarin is coumarin   coumarin is coumarin	47.		•	-		:				•	

Claims of 196 Patent	Claims of 196 Patent   Claims in 09/901.097	Correspond	Correspond   Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
	-	to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
10. The process of	34. The process of	2	Claim 34 of this Application does not explicitly	Count 2 does not recite using coumarin 47 and
claim 7 wherein said	claim 3.1 wherein said		disclose using coumarin 47 and coumarin 6.	coumarin 6. However, it would have been obvious
coumarin is coumarin	coumarin is coumarin   coumarin is coumarin		However, coumarin 1 is recognized in the art as	to mix compounds to broaden the emittable
6 and coumarin 47.	6 and coumarin 1.		an alternative name for coumarin 47. See, e.g.,	spectrum. See, e.g., Brinkley '692, the abstract,
			Kessler '932 disclosing in claim 21, see column	column 2 lines 43-62, column 4 lines 32-43, and
			15 lines 22-23, that coumarin 460 is alternatively	column 11 lines 29-54, disclosing combining
			called coumarin 1 and coumarin 47.	various organic materials (including inter alia
	-		Additionally, it would have been obvious to	coumarin and oxazinenile reddyes) to broaden
			combine dyes to broaden the spectrum of	the spectrum. Additionally, it would have been
•			emittable wavelengths. See, e.g., Brinkley '692,	obvious to mix coumarin 47 and 6 to obtain the
•			the abstract, column 2 lines 43-62, column 4 lines	specific broadened emittable spectrum including
:	-		32-43, and column 11 lines 29-54. Additionally,	blue (from coumarin 47) and green (from coumarin
			it would have been obvious to mix coumarin 47	(9)
			and 6 to obtain the specific broadened emittable	
			spectrum including blue (from coumarin 47) and	spectrum including blue (from coumarin 47) and Additionally, features of count 2 are anticipated by
			green (from coumarin 6).	features of claim 10 of the '196 patent and claim 34
				of this Application.
			Additionally, features of claim 34 of this	•
	-		Application are anticipated by features of claim	
•			10 of the '196 patent.	

Claims of 196 Patent	Claims in 09/901,097	Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
14. The process of	38. The process of	2	Claim 38 of this Application is a copy of claim 14	Count 2 does not recite metallizing the ink-jet
claim 13 further	claim 37 further		of the '196 patent because the disclosure of the	printed substrate. However, it would have been
including the step of	including the step of		'196 patent does not appear to support metallizing	obvious to metallize the organic film, as the art of
metallizing said ink-	metallizing said ink-jet		directly on the substrate. For example, col. 4,	the light emitting diode recognizes, to form a
jet printed substrates.	printed substrates.		lines 59-66, discloses forming a metal cathode	cathode and thus permit connecting the formed
•	•		and col. 5, lines 38-47, discloses forming top	diode to other circuits. Additionally, the scope of
	-		contacts on the organic material.	metallizing the printed substrate includes
٠				metallizing the organic film.
				Additionally features of count 2 are enticinated by
				framinoliaity, reactive of country and animary and aloim 29
٠				reatures of cially 14 of the 170 patent and cially 36
		,		of this Application.
14. The process of	76. The process of	2	Claim 76 of this Application does not explicitly	Count 2 does not recite metallizing the ink-jet
claim 13 further	claim 37 further		disclose metallizing the ink-jet printed substrate.	printed substrate. However, it would have been
including the step of	including the step of		However, the scope of metallizing the organic	obvious to metallize the organic film, as the art of
metallizing said ink-	metallizing said ink-iet	•	film includes metallizing the printed substrate.	the light emitting diode recognizes, to form a
iet printed substrates.	printed organic			cathode and thus permit connecting the formed
	material.		Additionally, features of claim 76 of this	diode to other circuits. Additionally, the scope of
-			Application are anticipated by features of claim	metallizing the printed substrate includes
			14 of the '196 patent.	metallizing the organic film.
				Additionally, features of count 2 are anticipated by
		;		features of claim 14 of the '196 patent and claim 76
				of this Application.

Rationale for Correspondence Between the Claims and the Count	Count 2 does not recite depositing a metallic cathode using ink-jet printing. However, it would	have been obvious to use ink-jet printing to deposit			metals because depositing by the ink-jet method is less expensive and simple. See, e.g., column 4,	lines 47-51. Additionally, because the diode	requires electrodes for connection to other circuit	elements.	A 4 1141 11. Contract of court of and participated by	Additionally, features of count 2 are annupated by features of claim 15 of the '196 patent and claim 39	of this Application.		
Rationale for Correspondence Between Claims of '196 Patent and the Claims in 09/901,097	Claim 39 of this Application does not disclose depositing the metallic cathode using ink-jet	printing. However, it would have been obvious to	because of the simplicity and low expense of ink-	jet printing. See, e.g., Drummond '248 teaching	ink-jet depositing of metals because depositing by the ink-jet method is less expensive and simple.	See, e.g., column 4, lines 47-51. Claim 39 of this	Application does not explicitly disclose	depositing plural contacts. However, it would	have been obvious to deposit plural contacts to	make plural connections. See, e.g., unis Application disclosing making plural elements,	which leads to depositing plural top contacts.	Additionally, features of claim 39 of this	Application are anticipated by features of claim 15 of the '196 patent.
Correspond to count No.	2					. •							
Claims of 196 Patent   Claims in 09/901,097	39. The process of claim 38 further	including the step of	contact on said	substrate.									
Claims of 196 Patent	15. The process of claim 14 further	including the step of denositing with ink-	jet printing top metal	contacts on said	substrate.								

	by 3.	40
Rationale for Correspondence Between the Claims and the Count	Count 2 does not recite patterning through a shadow mask. However, it would have been obvious to use a shadow mask as part of the masking to pattern the electrode to avoid etching the electrode. See, e.g., Tang '380, column 5, lines 62-68, and column 11 line 44 to column 12 line 3.	features of claim 16 of the '196 patent and claim 40 of this Application.
Correspond Rationale for Correspondence Between Claims to count No. of '196 Patent and the Claims in 09/901,097	Claim 40 of this Application does not explicitly disclose patterning through a shadow mask. However, it would have been obvious to use a shadow mask as part of the masking to pattern the electrode to avoid etching the electrode. See, e.g., Tang '380, column 12 line 3.  Count 2 does not recite patterning through a shadow mask. However, it would have been obvious to use a shadow mask as part of the masking to pattern the electrode to avoid etching electrode. See, e.g., Tang '380, column 12 line 3.  Additionally, features of count 2 are anticipated by	Additionally, features of claim 40 of this Application are anticipated by features of claim 16 of the '196 patent.
	2	
Claims of 196 Patent   Claims in 09/901,097	16. The process of 40. The process of claim 15 wherein said claim 39 wherein said op metal contacts are top metal contact is deposited through a hadow mask.	
Claims of 196 Patent	16. The process of claim 39 wherein sa top metal contacts are top metal contact is deposited through a shadow mask.	_

Claims of 106 Patent	Claims in 09/901 097	Correction	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
17. The process of	41. The process of	2	Claim 41 of this Application does not explicitly	Count 2 does not recite ink-jet depositing metal
claim 12 further	claim 36 further		disclose ink-jet depositing metal bottom contacts.	bottom contacts. Nevertheless, it would have been
including the step of	including the step of		Nevertheless, it would have been obvious to	obvious to deposit metallic bottom contacts because
depositing with ink-	depositing bottom		deposit metallic bottom contacts because they	they would lead to stabilized hole injection and
jet printing bottom	contacts on said		would lead to stabilized hole injection and longer	longer life operation. See, e.g., Van Slyke (1996),
metal contacts on said			life operation. See, e.g., Van Slyke (1996), the	the abstract and Figure 1, showing the deposition of
substrate.			abstract and Figure 1, showing the deposition of	Cu based layer. Additionally, it would have been
			Cu based layer. Additionally, it would have been	obvious to ink-jet deposit the bottom contacts
	•		obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-jet
	-		because of the simplicity and low expense of ink-	printing. See, e.g., Drummond '248 teaching ink-jet
			jet printing. See, e.g., Drummond '248 teaching	depositing of metals because depositing by the ink-
			ink-jet depositing of metals because depositing by	jet method is less expensive and simple. See, e.g.,
	-		the ink-jet method is less expensive and simple.	column 4, lines 47-51.
	•		See, e.g., column 4, lines 47-51.	
				Additionally, features of count 2 are anticipated by
			Additionally, features of claim 41 of this	features of claim 17 of the '196 patent and claim 41
			Application are anticipated by features of claim	of this Application.
		-	17 of the '196 patent.	
18. The process of	42. The process of	2	Claim 42 of this Application does not explicitly	Count 2 does not recite depositing plural contacts.
claim 15 wherein said	claim 39 wherein said		disclose depositing plural contacts. However, it	However, it would have been obvious to deposit
			would have been obvious to deposit plural	plural contacts to make plural connections.
deposited in a pattern.	deposited in a pattern.		contacts to make plural connections.	
	•	•		Additionally, features of count 2 are anticipated by
		<u>.</u>	Additionally, features of claim 42 of this	features of claim 18 of the '196 patent and claim 42
			Application are anticipated by features of claim	of this Application.
		-	18 of the '196 natent	

Rationale for Correspondence Between the	Cialina and the Count	Count 2 does not recite ink-jet depositing metal	bottom contacts. Nevertheless, it would have been	obvious to deposit metallic bottom contacts because	they would lead to stabilized hole injection and	longer life operation. See, e.g., Van Slyke (1996),	the abstract and Figure 1, showing the deposition of	Cu based layer. Additionally, it would have been	obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-jet	printing. See, e.g., Drummond '248 teaching ink-jet	depositing of metals because depositing by the ink-	jet method is less expensive and simple. See, e.g.,	column 4, lines 47-51.		Additionally, features of count 2 are anticipated by	features of claim 19 of the '196 patent and claim 43	of this Application.	
~	of 190 Fatent and the Claims in 02/201,027	Claim 43 of this Application does not explicitly	disclose ink-jet depositing metal bottom contacts.	Nevertheless, it would have been obvious to	deposit metallic bottom contacts because they	would lead to stabilized hole injection and longer	life operation. See, e.g., Van Slyke (1996), the	abstract and Figure 1, showing the deposition of	Cu based layer. Additionally, it would have been	obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-	jet printing. See, e.g., Drummond '248 teaching	ink-jet depositing of metals because depositing by	the ink-jet method is less expensive and simple.	See, e.g., column 4, lines 47-51.		Additionally, features of claim 43 of this	Application are anticipated by features of claim	19 of the '196 patent.
	to count No.	2											٠		-				
Claims of 196 Patent   Claims in 09/901,097		43. The process of	claim 41 wherein said	bottom contacts are	deposited in a pattern.		•	-			•	:				•		•	
Claims of 196 Patent		<ol><li>The process of</li></ol>	claim 17 wherein said	bottom metal contacts	are deposited in a	pattern.			٠					-					

		·	
Rationale for Correspondence Between the Claims and the Count	Count 2 does not recite depositing the metallic cathode using ink-jet printing. However, it would have been obvious to use ink-jet printing to deposit the metallic cathode because of the simplicity and low expense of ink-jet printing. See, e.g., Drummond '248 teaching ink-jet depositing of metals because depositing by the ink-jet method is less expensive and simple. See, e.g., column 4, lines 47.51	<del></del>	
Rationale for Correspondence Between Claims of '196 Patent and the Claims in 09/901,097	Claim 45 of this Application does not explicitly disclose depositing the metallic cathode using ink-jet printing. However, it would have been obvious to use ink-jet printing to deposit the metallic cathode because of the simplicity and low expense of ink-jet printing. See, e.g., Drummond '248 teaching ink-jet depositing of metals because depositing by the ink-jet method	lines 47-51. Claim 45 this Application does not explicitly disclose depositing plural contacts. However, it would have been obvious to deposit plural contacts to make plural connections. See, e.g., this Application disclosing making plural elements, which leads to depositing plural top contacts.	Additionally, features of claim 45 of this Application are anticipated by features of claim 21 of the '196 patent.
Correspond to count No.	2		
Claims of 196 Patent Claims in 09/901,097	45. The process of claim 44 further including the step of depositing a top contact on said organic material.		
Claims of 196 Patent	21. The process of claim 20 further including the step of depositing top contacts on said organic material by ink jet printing.		

	T			-	_									$\neg$
Rationale for Correspondence Between the		Count 2 does not recite ink-jet depositing the	bottom contacts. Nevertheless, it would have been	obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-jet	printing. See, e.g., Drummond '248 teaching ink-jet	depositing of metals because depositing by the ink-	jet method is less expensive and simple. See, e.g.,	column 4, lines 47-51.		Additionally, features of count 2 are anticipated by	features of claim 22 of the '196 patent and claim 46	of this Application.	
Claims of 196 Patent Claims in 09/901,097 Correspond Rationale for Correspondence Between Claims		Claim 46 of this Application does not explicitly	disclose ink-jet depositing the bottom contacts.	Nevertheless, it would have been obvious to ink-	jet deposit the bottom contacts because of the	simplicity and low expense of ink-jet printing.	See, e.g., Drummond '248 teaching ink-jet	depositing of metals because depositing by the	ink-jet method is less expensive and simple. See,	e.g., column 4, lines 47-51.		Additionally, features of claim 46 of this	Application are anticipated by features of claim	22 of the '196 patent.
Correspond	to count 140.	7			-									
Claims in 09/901,097		46. The process of	claim 45 further	including the step of	depositing bottom	contacts on said	substrate.				-		-	-
Claims of 196 Patent		22. The process of	claim 21 further	including the step of	depositing bottom	contacts on said	substrate by ink-jet	printing.						

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Claims of 196 Patent	Claims of 196 Patent   Claims in 09/901,097	Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
34. The process of	58. The process of	4	Claim 58 of this Application does not explicitly	Count 4 does not recite using chloroform as the
claim 30 wherein said	claim 30 wherein said   claim 54 wherein said		disclose using chloroform as the organic solvent.	solvent. However, it is well recognized in the
solvent is chloroform.   solvent is organic.	solvent is organic.		However, it is well recognized in the chemical	chemical arts that dissolving organic material is
			arts that dissolving organic material is best	best performed with organic solvents. Moreover, it
	٠		performed with organic solvents. Moreover, it is	is recognized in the art that chloroform dissolves
		٠	recognized in the art that chloroform dissolves	PVK. See, e.g., Zhang (1994), p. 37, first
	-		PVK. See, e.g., Zhang (1994), p. 37, first	paragraph of section titled "LED device
	÷		paragraph of section titled "LED device	fabrication." Additionally, it would have been
	•		fabrication." Additionally, it would have been	obvious to use chloroform as the organic solvent
	-		obvious to use chloroform as the organic solvent	because chloroform has a low boiling point and,
			because chloroform has a low boiling point and,	therefore, would not require a lot of heating to
			therefore, would not require a lot of heating to	evaporate. See, e.g., The Merck Index, 12" edition,
			evaporate. See, e.g., The Merck Index, 12th	p. 2199 as opposed to various alcohols as shown in
			edition, p. 2199 as opposed to various alcohols as	Table 17.1 of Organic Chemistry by Morrison and
			shown in Table 17.1 of Organic Chemistry by	Boyd, 5th edition (1987), p. 637.
			Morrison and Boyd, 5th edition (1987), p. 637.	
		-		Additionally, features of count 4 are anticipated by
			Additionally, features of claim 58 of this	features of claim 34 of the '196 patent and claim 58
			Application are anticipated by features of claim	of this Application.
			34 of the '196 patent.	

Claims of 196 Patent	Claims of 196 Patent   Claims in 09/901,097	Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
•		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
36. The process of	60. The process of	5	Claim 60 of this Application does not explicitly	Count 5 does not recite using coumarin with nile
claim 35 wherein said	claim 59 wherein said		disclose using coumarin with nile red. However,	red. However, both coumarin and Nile red are dyes
light emitting dyes	light emitting dyes		both coumarin and Nile red are dyes used in	used in organic light emitting devices because of
include coumarin and	include coumarin.	•	organic light emitting devices because of their	their spectra. See, e.g., Mori '489, column 24, lines
nile red.			spectra. See, e.g., Mori '489, column 24, lines 3-	3-6, and column 40, line 68. Additionally, it would
		,	6, and column 40, line 68. Additionally, it would	have been obvious to mix coumarin with nile red to
			have been obvious to mix coumarin with nile red	broaden the spectrum of the emitted light. See, e.g.,
	:		to broaden the spectrum of the emitted light. See,	Brinkley '692, column 11, lines 38-54, and Table 3
			e.g., Brinkley '692, column 11, lines 38-54, and	disclosing combining various organic materials
			Table 3, disclosing combining various organic	(including inter alia coumarin and oxazinenile
			materials (including inter alia coumarin and	reddyes) to broaden the spectrum of emitted light.
	-		oxazinenile reddyes) to broaden the spectrum	
			of emitted light.	Additionally, features of count 5 are anticipated by
			,	features of claim 36 of the '196 patent and claim 60
		٠	Additionally, features of claim 60 of this	of this Application.
			Application are anticipated by features of claim	
•		-	36 of the '196 patent of this Application.	

laime of 106 Patent	Claims of 196 Patent   Claims in 09/901 097	Correspond	Correspond   Rationale for Correspondence Between Claims	Rationale for Correspondence Between the	
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count	
38. The process of	62. The process of	5	ان	Count 5 does not recite using coumarin 47.	
aim 36 wherein said	claim 36 wherein said   claim 60 wherein said		disclose using coumarin 47. However, coumarin	However, coumarin 1 is recognized in the art as an	
oumarin is coumarin	coumarin is coumarin   coumarin is coumarin		1 is recognized in the art as an alternative name	alternative name for coumarin 47. See, e.g.,	
7.			for coumarin 47. See, e.g., Kessler '932	Kessler '932 disclosing in claim 21, see column 15	
			disclosing in claim 21, see column 15 lines 22-23, lines 22-23, that coumarin 460 is alternatively	lines 22-23, that coumarin 460 is alternatively	
		-	that coumarin 460 is alternatively called coumarin	called commarin 1 and coumarin 47. Additionally,	
			1 and coumarin 47.	it would be obvious to use coumarin 1 (also	
				recognized as 47) to obtain blue light. See, e.g.,	
			Additionally, features of claim 67 of this	Thompson '982, column 3 lines 7-19, column 5	
			Application are anticipated by features of claim	lines 43-54, and references cited therein.	
			38 of the '196 patent.		
		•	•	Additionally, features of count 5 are anticipated by	
				features of claim 38 of the '196 patent and claim 67	
				of this Application.	

Claims of 196 Patent	Claims of 196 Patent   Claims in 09/901,097	Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
	•	to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
39. The process of	63. The process of	5	Claim 63 of this Application does not explicitly	Count 5 does not recite using coumarin 47 and
claim 36 wherein said			disclose using coumarin 47 and coumarin 6.	coumarin 6. However, it would have been obvious
coumarin is coumarin			However, coumarin 1 is recognized in the art as	to mix compounds to broaden the emittable
6 and coumarin 47.			an alternative name for coumarin 47. See, e.g.,	spectrum. See, e.g., Brinkley '692, column 11 lines
	•		Kessler '932 disclosing in claim 21, see column	38-54, disclosing combining various organic
	·		15 lines 22-23, that coumarin 460 is alternatively	materials (including inter alia coumarin and
			called coumarin 1 and coumarin 47.	oxazinenile reddyes) to broaden the spectrum.
			Additionally, it would have been obvious to	Additionally, it would have been obvious to mix
			combine dyes to broaden the spectrum of	coumarin 47 and 6 to obtain the specific broadened
	· .		emittable wavelengths. See, e.g., Brinkley '692,	emittable spectrum including blue (from coumarin
			the abstract, column 2 lines 43-62, column 4 lines	47) and green (from coumarin 6).
			32-43, and column 11 lines 29-54. Additionally,	
			it would have been obvious to mix coumarin 47	Additionally, features of count 5 are anticipated by
			and 6 to obtain the specific broadened emittable	features of claim 39 of the '196 patent and claim 63
			spectrum including blue (from coumarin 47) and	of this Application.
			green (from coumarin 6).	
	-			
		-	Additionally, features of claim 63 of this	
			Application are anticipated by features of claim	-
•			39 of the '196 patent.	

• •	· <u> </u>			
Rationale for Correspondence Between the Claims and the Count	Count 5 does not recite metallizing the ink-jet printed substrate. However, it would have been obvious to metallize the organic film, forming art of the light emitting diode, to form a cathode and thus permit connecting the formed diode to other circuits. Additionally, the scope of metallizing the printed substrate includes metallizing the organic film.	Additionally, features of count 5 are anticipated by features of claim 43 of the '196 patent and claim 67 of this Application.	Count 5 does not recite metallizing the ink-jet printed substrate. However, it would have been obvious to metallize the organic film, forming art of the light emitting diode, to form a cathode and thus permit connecting the formed diode to other circuits. Additionally, the scope of metallizing the printed substrate includes metallizing the organic film.	Additionally, features of count 5 are anticipated by features of claim 43 of the '196 patent and claim 77 of this Application.
Rationale for Correspondence Between Claims of '196 Patent and the Claims in 09/901,097	Claim 67 of this Application is a copy of claim 43 of the '196 patent because the disclosure of the '196 patent does not appear to support metallizing directly on the substrate. For example, col. 4, lines 59-66, discloses forming a metal cathode and col. 5, lines 38-47, discloses forming top contacts on the organic material.		Claim 77 of this Application does not explicitly disclose metallizing the ink-jet printed substrate. However, the scope of metallizing the organic film includes metallizing the printed substrate. Additionally, features of claim 77 of this Application are anticipated by features of claim 14 of the '196 patent.	
Correspond to count No.	8		\$	·
Claims in 09/901,097	67. The process of claim 66 further including the step of metallizing said ink-jet printed susbtrates.		77. The process of claim 66 further including the step of metallizing said ink-jet printed organic material.	
Claims of 196 Patent	43. The process of claim 42 further including the step of metallizing said inkiet printed substrates.		43. The process of claim 42 further including the step of metallizing said inkiet printed substrates.	

Claims of 106 Patent	Cloims of 10k Potent   Claims in 09/901 097	Correspond	Rationale for Corresnondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
44. The process of	68. The process of	5	Claim 68 of this Application does not explicitly	Count 5 does not recite depositing a metallic
claim 43 further	claim 67 further		disclose depositing the metallic cathode using	cathode using ink-jet printing. However, it would
including the step of	including the step of		ink-jet printing. However, it would have been	have been obvious to use ink-jet printing to deposit
depositing with ink-	depositing a top metal		obvious to use ink-jet printing to deposit the	a metallic cathode because of the simplicity and
iet printing top metal	contact on said		metallic cathode because of the simplicity and	low expense of ink-jet printing. See, e.g.,
contacts on said	substrate.		low expense of ink-jet printing. See, e.g.,	Drummond '248 teaching ink-jet depositing of
substrate.			Drummond '248 teaching ink-jet depositing of	metals because depositing by the ink-jet method is
	,		metals because depositing by the ink-jet method	less expensive and simple. See, e.g., column 4,
		. •	is less expensive and simple. See, e.g., column 4,	lines 47-51. Additionally, because the diode
			lines 47-51. Claim 68 of this Application does	requires electrodes for connection to other circuit
			not explicitly disclose depositing plural contacts.	elements. Count 5 does not recite depositing plural
			However, it would have been obvious to deposit	contacts. However, it would have been obvious to
			plural contacts to make plural connections. See,	deposit plural contacts to make plural connections.
•			e.g., this Application disclosing making plural	
			elements, which leads to depositing plural top	Additionally, features of count 5 are anticipated by
	-		contacts.	features of claim 44 of the '196 patent and claim 68
				of this Application.
			Additionally, features of claim 68 of this	:
•			Application are anticipated by features of claim	
			44 of the '196 patent.	

Claims of 196 Patent   Claims in 09/901,097   Correspond   Rationale	Correspond Rationale	Rationale	Correspond Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
to count No.	to count No.		of '196 Patent and the Claims in 09/901,097	Claims and the Count
69. The process of 5	2		Claim 69 of this Application does not explicitly	Count 5 does not recite patterning through a
claim 44 wherein said   claim 68 wherein said	-	_	disclose patterning through a shadow mask.	shadow mask. However, it would have been
top metal contacts are   top metal contact is	÷.	_	However, it would have been obvious to use a	obvious to use a shadow mask as part of the
deposited through a	•	_	shadow mask as part of the masking to pattern the   masking to pattern the electrode to avoid etching	masking to pattern the electrode to avoid etching
mask.			electrode to avoid etching the electrode. See, e.g.,	electrode to avoid etching the electrode. See, e.g., the electrode. See, e.g., Tang '380, column 5 lines
	F	Ξ	Tang '380, column 5 lines 62-68, and column 11	62-68, and column 11 line 44 to column 12 line 3.
<u></u>		=	line 44 to column 12 line 3.	
-				Additionally, features of count 5 are anticipated by
	4	~	Additionally, features of claim 69 of this	features of claim 45 of the '196 patent and claim 69
<u> </u>	Y	4	Application are anticipated by features of claim	of this Application.
<u>.</u>	4.	4	45 of the '196 patent.	

		_	The Chains	Pationale for Correspondence Between the	•
Claims of 196 Patent	Claims in 09/901,097	Correspond	Kationale for Correspondence Detween Claims	Ivanoliais to conscionation of the constitution of the constitutio	•
	•	to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count	
16 The process of	70 The process of	٧	Claim 70 of this Application does not explicitly	Count 5 of this Application does not recite ink-jet	
40. The process of	of the process of	,	disclose in Liet denociting metal hottom confacts	denositing metal bottom contacts. Nevertheless, it	
claim 41 nurner	claim 65 iurulei		מוסרוספר וווע-לה תבלסקים יהל יווי ביייים מייים מיים מייים מייים מייים מייים מייים מייים מייים מייים מייים מי	illetam transfer of succession and the	
including the step of	including the step of		Nevertheless, it would have been obvious to	Would flave usell opvious to acposit installis	
depositing with ink-	depositing bottom	٠	deposit metallic bottom contacts because they	bottom contacts because they would lead to	
iet printing hottom	contacts on said		would lead to stabilized hole injection and longer	stabilized hole injection and longer life operation.	
metal contacts on said	substrate		life operation. See, e.g., Van Slyke (1996), the	See, e.g., Van Slyke (1996), the abstract and Figure	
enhetrate		·	abstract and Figure 1, showing the deposition of	1, showing the deposition of Cu based layer.	
300311015			Cu based laver. Additionally, it would have been	Additionally, it would have been obvious to ink-jet	
		. •	obvious to ink-iet deposit the bottom contacts	deposit the bottom contacts because of the	
			because of the simplicity and low expense of ink-	simplicity and low expense of ink-jet printing. See,	
			iet printing. See, e.g., Drummond '248 teaching	e.g., Drummond '248 teaching ink-jet depositing of	
			ink-jet depositing of metals because depositing by	metals because depositing by the ink-jet method is	
			the ink-jet method is less expensive and simple.	less expensive and simple. See, e.g., column 4,	
			See, e.g., column 4, lines 47-51. Claim 70 of this	lines 47-51. Count 5 does not recite depositing	
			Application does not explicitly disclose	plural contacts. However, it would have been	
	•		depositing plural contacts. However, it would	obvious to deposit plural contacts to make plural	
			have been obvious to deposit plural contacts to	connections.	
			make plural connections.		
		.,	•	Additionally, features of count 5 are anticipated by	
			Additionally, features of claim 70 of this	features of claim 46 of the '196 patent and claim 70	
•			Application are anticipated by features of claim	of this Application.	
			46 of the '196 patent.		_

																				_
Rationale for Correspondence Between the Claims and the Count	Inherently met because depositing is in a pattern.	Additionally, features of count 5 are anticipated by features of claim 47 of the '196 patent and claim 71 of this Amilication		Count 5 does not recite ink-jet depositing metal	bottom contacts. Nevertheless, it would have been	obvious to deposit metallic bottonii contacts occause they would lead to stabilized hole injection and	longer life operation. See, e.g., Van Slyke (1996),	the abstract and Figure 1, showing the deposition of	Cu based layer. Additionally, it would have been	obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-jet	printing. See, e.g., Drummond '248 teaching ink-jet	depositing of metals because depositing by the ink-	jet method is less expensive and simple. See, e.g.,	column 4, lines 47-51.	who forming the sea of second of the second	Additionally, reatures of country are anticipated by	teatures of claim 48 of the 190 patent and claim 72	of this Application	
Rationale for Correspondence Between Claims of '196 Patent and the Claims in 09/901,097	Inherently met because depositing is in a pattern.	Additionally, features of claim 71 of this Application are anticipated by features of claim	47 of the 170 patein.	Claim 72 of this Application does not explicitly	disclose ink-jet depositing metal bottom contacts.	Nevertheless, it would have been obvious to	would lead to stabilized hole injection and longer	life operation. See, e.g., Van Slyke (1996), the	abstract and Figure 1, showing the deposition of	Cu based layer. Additionally, it would have been	obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-	jet printing. See, e.g., Drummond '248 teaching	ink-jet depositing of metals because depositing by	the ink-jet method is less expensive and simple.	See, e.g., column 4, lines 47-51.		Additionally, features of claim 72 of this	Application are anticipated by features of claim	48 of the '196 patent.
Correspond to count No.	. \$			5																
Claims of 196 Patent   Claims in 09/901,097	71. The process of claim 68 wherein said			72. The process of	claim 46 wherein said   claim 70 wherein said	bottom contacts are	uepositeu iii a pattei ii.			٠					•		-			
Claims of 196 Patent	47. The process of claim 44 wherein said			48. The process of	claim 46 wherein said	bottom metal contacts   bottom contacts are	are deposited in a		. :				-					•		

Claims of 190 Patent   Claims in 09/901,097		Correspond	Rationale for Correspondence Between Claims	Rationale for Correspondence Between the
		to count No.	of '196 Patent and the Claims in 09/901,097	Claims and the Count
74. The process of	ss of	5	Claim 74 of this Application does not explicitly	Count 5 does not recite depositing the metallic
claim 73 further			disclose depositing the metallic cathode using	cathode using ink-jet printing. However, it would
including the step of	step of		ink-jet printing. However, it would have been	have been obvious to use ink-jet printing to deposit
depositing a top	ٔ م	•	obvious to use ink-jet printing to deposit the	the metallic cathode because of the simplicity and
on saic	contact on said organic		metallic cathode because of the simplicity and	low expense of ink-jet printing. See, e.g.,
material.	)		low expense of ink-jet printing. See, e.g.,	Drummond '248 teaching ink-jet depositing of
			Drummond '248 teaching ink-jet depositing of	metals because depositing by the ink-jet method is
			metals because depositing by the ink-jet method	less expensive and simple. See, e.g., column 4,
			is less expensive and simple. See, e.g., column 4,	lines 47-51.
			lines 47-51. Claim 74 of this Application does	
			not explicitly disclose depositing plural contacts.	Additionally, features of count 5 are anticipated by
			However, it would have been obvious to deposit	features of claim 50 of the '196 patent and claim 74
	_		plural contacts to make plural connections. See,	of this Application.
			e.g., this Application disclosing making plural	
			elements, which leads to depositing plural top	
			contacts.	
			Additionally, features of claim 74 of this	
			Application are anticipated by features of claim	
			50 of the '196 patent.	

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Rationale for Correspondence Between the	Claims and the Count	Count 5 does not recite ink-jet depositing the	bottom contacts. Nevertheless, it would have been	obvious to ink-jet deposit the bottom contacts	because of the simplicity and low expense of ink-jet	printing. See, e.g., Drummond '248 teaching ink-jet	depositing of metals because depositing by the ink-	jet method is less expensive and simple. See, e.g.,	column 4, lines 47-51.	-	Additionally, features of count 5 are anticipated by	features of claim 51 of the '196 patent and claim 75	of this Application.	
Correspond Rationale for Correspondence Between Claims	of '196 Patent and the Claims in 09/901,097	Claim 75 of this Application does not explicitly	disclose ink-jet depositing the bottom contacts.	Nevertheless, it would have been obvious to ink-	jet deposit the bottom contacts because of the	simplicity and low expense of ink-jet printing.	See, e.g., Drummond '248 teaching ink-jet	depositing of metals because depositing by the	ink-jet method is less expensive and simple. See,	e.g., column 4, lines 47-51.		Additionally, features of claim 75 of this	Application are anticipated by features of claim	51 of the '196 patent.
Correspond	to count No.	5					٠			. •		•		
Claims of 196 Patent   Claims in 09/901,097		75. The process of	claim 74 further	including the step of	depositing bottom	contacts on said	substrate.				•	÷.		
Claims of 196 Patent		51. The process of	claim 50 further	including the step of	depositing bottom	contacts on said	substrate by ink-jet	printing.	• .		-			